

HAND TOOL AND METHOD FOR  
APPLYING SCULPTURED DESIGNS TO A SUBSTRATE

BACKGROUND OF THE INVENTION

1. Field of the Invention

5           The present invention relates to the general art of  
hand tools, and to the particular field of hand tools used  
for applying coatings to substrates.

2. Discussion of the Related Art

10           Finish work for a building often includes placing  
drywall and drywall compounds onto substrate elements, such  
as ceilings and/or walls of the building. This process is  
generally carried out by brushing or troweling drywall  
compound onto the chosen substrates.

15           The inventor has found that many people wish to vary  
the appearance of the walls and/or ceilings of their homes,  
offices or other buildings. Obviously, this can be achieved  
using various wall hangings such as pictures and the like.  
However, many people want more variety than such traditional  
elements can provide.

20           This additional variety can be achieved by applying  
designs to the walls and/or ceilings. Such designs can be  
effected using special moldings; however, this can be costly

in both time and materials.

Another method of applying designs to walls and/or ceilings has included the use of templates. A template is placed on the wall or ceiling and paint applied. A design results. Yet another method of applying designs to a wall or ceiling has included the use of patterned paint rollers.

Applying paint to a surface using a patterned paint roller is effective in applying a repeating pattern to a substrate,

While effective, the just-described methods of applying decorations to a wall or ceiling are merely two dimensional and thus the decorations are not truly unique and could be considered as mere variations of pictures and other wall hangings.

Therefore, there is a need for a means and method of applying decorations to a substrate that produce a unique decoration.

The inventor has found that sculptured decorations, that is decorations that stand out from a substrate, are quite popular. However, in the past, such sculptured decorations have required special tools and special processes and may require the services of a highly skilled specialist. These requirements can make such sculptured decorations expensive and also increase the time it takes to complete a job.

which have been formed using presently-available means and methods may be degraded by washing. This is a significant drawback because room walls and ceilings must be washed from time to time. If the washing degrades the surface decorations, after some time these decorations will become something that the building owner did not purchase.

Therefore, there is a need for a means and method of applying sculptured decorations to a substrate that can be washed without significant degradation.

Still further, there are occasions when it is desirable to have a wide variety of different surface decorations on the same substrate in order to achieve a particular effect. However, if it is costly to execute such decorations, such variety cannot be achieved without significant expense and time.

Therefore, there is a need for a means and method of applying sculptured decorations to a substrate in which a wide variety of decorations can be applied to a single substrate in an efficient and cost-effective manner.

While some sculpturing can be achieved using special brushes and trowels that, for example, have serrated edges, these means and methods cannot achieve a wide variety of designs, some of which do not include lines and curves associated with such edges and brushes.

Therefore, there is a need for a means and method of applying sculptured decorations to a substrate that can achieve designs that vary from lines and curves associated with brushes and serrated edges.

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#### PRINCIPAL OBJECTS OF THE INVENTION

It is a main object of the present invention to provide a means and method of applying decorations to a substrate that produce a unique decoration.

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It is another object of the present invention to provide a means and method of applying sculptured decorations to a substrate.

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It is another object of the present invention to provide a means and method of applying sculptured decorations to a substrate in an efficient and cost-effective manner.

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It is another object of the present invention to provide a means and method of applying sculptured decorations to a substrate which can efficiently and in a cost effective manner produce a wide variety of designs.

It is another object of the present invention to provide a means and method of applying sculptured decorations to a substrate that can be washed without significant degradation.

It is another object of the present invention to provide a means and method of applying sculptured decorations to a substrate in which a wide variety of decorations can be applied to a single substrate in an efficient and cost-effective manner.

It is another object of the present invention to provide a means and method of applying sculptured decorations to a substrate that can achieve designs that vary from lines and curves associated with brushes and serrated edges.

#### SUMMARY OF THE INVENTION

These, and other, objects are achieved by a hand tool for decorating a substrate comprising an open top container unit; an applicator unit which is sized relative to said container unit to be received in said container unit; a handle on said applicator unit; and a relief pattern on one surface of said applicator unit having a substrate-contacting surface which is spaced from the one surface of said applicator unit and a multiplicity of compound-receiving cavities.

The hand tool is used by placing compound that will be used to form the sculptured decorations on the substrate in the container unit and then forcing the applicator unit into

the container unit and into contact with the compound until  
some of the compound fills the cavities in the applicator  
unit relief pattern unit. Then, the applicator unit is  
withdrawn from the container unit and applied against the  
5 substrate and the relief pattern is compressed so the  
compound in the cavities is applied to the substrate. Some  
of the compound will adhere to the substrate and the  
applicator unit is removed from the substrate. The compound  
that remains will form a pattern that corresponds to the  
10 pattern on the applicator unit and will define the  
sculptured decoration on the substrate.

By changing applicator units, various sculptured  
decorations can be formed. Since it is quite easy to change  
applicator units, a great variety of different sculptured  
15 decorations can be formed in an easy and efficient manner.  
The compound can be any suitable compound, including  
drywall-type compound and thus will be very durable once  
applied. Even unskilled workers can apply the decorations  
due to the ease with which the hand tool is used and no  
20 special tools or skill is required to use the hand tool.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a top perspective view of a container unit  
and an applicator unit included in the tool embodying the

teaching of the present invention.

Figure 2 is a side view taken along line 2-2 of Figure 1.

Figure 3 is a side elevational view showing the tool embodying the teaching of the present invention with compound in the container unit as an illustration of the use of the tool of the present invention to carry out the method embodying the present invention.

Figure 4 is an elevational view showing another step in the method of the present invention.

Figure 5 is an elevational view showing another step in the method of the present invention.

Figure 6 is a plan view showing a sculptured decoration on a substrate that results from the method and means of the present invention.

Figure 7 is a flow chart showing the method embodying the teaching of the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

Other objects, features and advantages of the invention will become apparent from a consideration of the following detailed description and the accompanying drawings.

The means and method of the present invention permits a wide variety of sculptured decorations to be placed on a

substrate, such as a wall or a ceiling, in a timely and efficient manner. Compound, such as drywall-type compound, is stored in an easily carried container and an applicator is simply pressed into the compound in the container to pick up compound in a patterned manner and then pressed against the substrate to deposit the compound onto the substrate in the manner that corresponds to the pattern. A wide variety of applicators can be used to effect a wide variety of decorations, even on the same substrate. Since the method and means are so simple, it is quite easy for even an unskilled worker to effect complicated and unique designs on the walls and/or ceilings of a building. Since the compound can be any suitable material, it can be quite durable, even if washed a number of times.

Referring to Figures 1-3, it can be seen that the means of the present invention is embodied in a hand tool 10 for decorating a substrate S (see Figure 4) such as a ceiling or a wall or other such element of a building. Hand tool 10 comprises a container unit 12 having a planar bottom 14 having a circular perimeter 16, a circular sidewall 18 which has an inside surface 20 and an outside surface 22. Circular sidewall 18 is attached to planar bottom 14 and extends from planar bottom 14. A top rim 24 is located on sidewall 18 to be spaced from planar bottom 14 and is circular and has an



inside diameter indicated at reference number 26. A longitudinal axis 28 of the container unit 12 extends from bottom 14 to top rim 24.

Container unit 12 further includes handles 30 and 32 on outside surface 22 of sidewall 18 and are diametrically spaced apart from each other.

Hand tool 10 further includes an applicator unit 40 best shown in Figures 1 and 2. Applicator unit 40 includes a body 42 which can be plastic or any other suitable material that is easily cleaned. Body 42 includes a bottom surface 44 having an oval shaped outer perimeter 46 with a major dimension indicated by reference number 48 and a minor dimension indicated by reference number 50. Major dimension 48 is larger than minor dimension 50 and is smaller than inside diameter 26 of top rim 24 of sidewall 18 of container unit 12. Applicator unit 40 further includes a planar top surface 54 which has an oval shaped outer perimeter 56 having a major dimension indicated by reference number 58 and a minor dimension indicated by reference number 60. Major dimension 58 of top surface 54 of body 42 of applicator unit 40 is larger than minor dimension 60 of top surface 54 of body 42 of applicator unit 40 and is smaller than major dimension 48 of bottom surface 44 of body 42 of applicator unit 40 and minor dimension 60 of top surface 54

of body 42 of applicator unit 40 is smaller than minor dimension 50 of bottom surface 44 of body 42 of applicator unit 40. A conical sidewall 62 connects bottom surface 44 of body 42 of applicator unit 40 to top surface 54 of body 42 of applicator unit 40.

The size of the body of the applicator unit 40 relative to the size of the container unit 12 permits the applicator unit 40 to be moved into and out of the container unit 12 in the direction of longitudinal axis 28 for a purpose that will be understood from the teaching of this disclosure.

Hand tool 10 further includes an L-shaped handle 70 on top surface 54 of body 42 of applicator unit 40. Handle 70 includes a first leg 72 with a proximal end 74 on top surface 54 of body 42 of applicator unit 40 and a distal end 76 spaced apart from top surface 54. Handle 70 further includes a second leg 78 having one end 80 on distal end 76 of the first leg 72 of the L-shaped handle 70 and extends parallel to planar top surface 54 of body 42 of applicator unit 40.

Hand tool 10 further includes a relief pattern unit 90 on bottom surface 44 of body 42 of applicator unit 40. As shown in Figure 2, relief pattern unit 90 includes a multiplicity of flexible pattern elements, such as pattern element 92, which are spaced apart from each other, with

each pattern element 92 having a base 94 attached to bottom surface 44 and an end surface 96 spaced apart from bottom surface 44 of body 42. A multiplicity of open-ended cavities, such as cavity 98, are each defined between adjacent pattern elements and are defined by adjacent pattern elements 92 and bottom surface 44 of body 42 of applicator unit 40. Cavities 98 are sized to temporarily hold compound therein after pattern unit 90 of the applicator unit 40 has been forced into the compound and then to release that temporarily-held compound when the pattern unit 90 is pressed against a substrate, such as ceiling 93 for example, in the manner of a hand stamp, such as an ink stamp or the like.

Each pattern element 92 has an outside surface 99 which extends between bottom surface 44 and end 96 which is shaped to define a negative image of a desired pattern to be defined on a substrate. The shape of each open-ended cavity is defined by the shapes of those pattern elements defining the open-ended cavity, and the shape of each open-ended cavity is selected to be identical to a portion of the desired pattern.

Flexible pattern elements 92 are compressible toward bottom surface 44 of body 42 in the manner of such a hand stamp. Thus, when compound is contained in the open-ended

cavities, it will have the shape of the desired design and will develop that design when pressed against the substrate in the manner of a hand stamp as will be understood by those skilled in the art based on the teaching of this disclosure.

5           In some embodiments, such as shown in Figure 2, end surfaces 96 of pattern elements 92 of relief pattern unit 90 are co-planar with each other. One form of the compound includes a drywall-type compound known to those skilled in the drywall art.

10           Referring to Figures 3-7, the method embodying the present invention will be described. The method uses the hand tool 10 described above with regard to Figures 1 and 2 and comprises placing compound C in the container unit 12 in step 100; forcing the applicator unit 40 into the container  
15           unit 12 past the top rim 24 of the container unit 12 and toward the planar bottom 14 of the container unit 12 in the direction of the longitudinal axis 28 of the container unit 12 in step 102; pressing the relief pattern into the compound in the container unit 12 in step 104; forcing  
20           compound into the cavities of the relief pattern unit in step 106; moving the applicator unit 40 in the direction of the longitudinal axis 28 of the container unit 12 towards and past the top rim 24 of the container unit 12 in step 108; applying the relief pattern unit with compound in the

cavities of the relief pattern unit to a substrate in step 110 and as indicated in Figure 4; pressing the applicator unit 40 toward the substrate to compress the flexible pattern elements and creating contact between the compound in the cavities of the relief pattern unit and the substrate in step 112; holding the applicator unit 40 against the substrate until at least some of the compound in the cavities of the relief pattern unit adheres to the substrate in step 114; removing the applicator unit 40 from contact with the substrate in step 116; and leaving the compound that has adhered to the substrate on the substrate in step 118 and as indicated in sculptured decoration D in Figure 6.

It is understood that while certain forms of the present invention have been illustrated and described herein, it is not to be limited to the specific forms or arrangements of parts described and shown.